ABSTRACT OF THE DISCLOSURE

A semiconductor device has a semiconductor substrate of a first conductivity; and a first electrode formation region and a second electrode formation region formed adjacent to an inner surface of the semiconductor substrate. The first electrode formation regions and the second electrode formation regions are isolated from each other via an element isolation region. An upper first-type impurity layer and a lower first-type impurity layer are formed in one of the first electrode formation region and the second electrode formation region, the lower first-type impurity layer has a different first-type impurity concentration from the upper first-type impurity layer and is formed under the upper first-type impurity layer. A second-type impurity layer and a first-type impurity layer are formed in the other electrode formation region and the first-type impurity layer is formed under a part of the second-type impurity layer having second-type impurities.